

**EXPANDED SITE INSPECTION REPORT
FOR
MASCOTECH FORMING TECHNOLOGIES
(FORMERLY KNOWN AS BURNS COLD FORGE)
9312 ARROW ROAD NW
MINERVA, OH 44657**

U.S. EPA ID NO.:

OHD 004 213 047

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Site Assessment Section
77 West Jackson Boulevard
Chicago, IL 60604**

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(27 Sheets)

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1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), was tasked by the U.S. Environmental Protection Agency (EPA) to conduct an expanded site inspection (ESI) of the MascoTech Forming Technologies (MascoTech) site (formerly known as Burns Cold Forge [Burns]) under Contract No. 68-W8-0084, Work Assignment No. 36-5JZZ.

The purpose of an ESI is to collect sufficient information about the site to assess the threat posed to human health and the environment and to determine the need for additional investigations and possible remediation under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). PRC prepared this report from information provided by EPA, the Ohio Environmental Protection Agency (OEPA), and the Ohio Department of Natural Resources (ODNR).

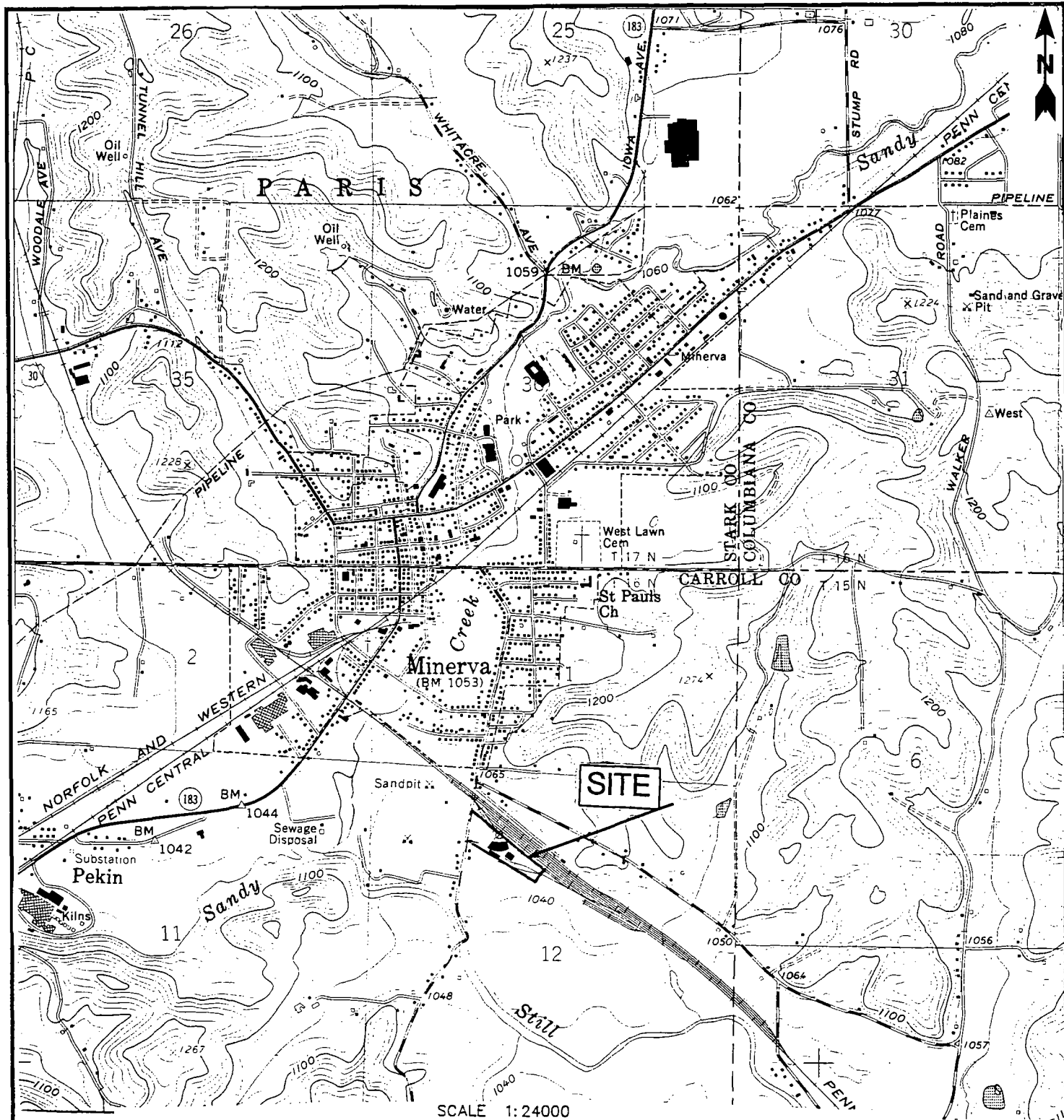
This report has six sections, including this introductory section. Section 2.0 describes the site, the site vicinity, and the reconnaissance inspection. Section 3.0 discusses site operations and history, including any documented releases of hazardous substances to the environment. Section 4.0 discusses previous investigations at the site. Section 5.0 provides information about the groundwater migration, surface water migration, soil exposure, and air migration pathways. Section 6.0 summarizes PRC's site evaluation.

2.0 SITE DESCRIPTION

This section describes the site location, site vicinity, and site reconnaissance inspection.

2.1 SITE LOCATION

The MascoTech site is a 16.2 acre active manufacturing facility located at 9312 Arrow Road NW, southeast of the City of Minerva in Carroll County, Ohio. Figure 1 shows the location of the site in relation to surrounding topographic features. The site's geographic coordinates are latitude 40°43'15.0" N and longitude 81°06'00.0" W, as measured from the approximate center of a former waste oil storage pit at the rear of the facility.



QUADRANGLE LOCATION

Source: Modified from USGS 1971.

MASCOTECH FORMING TECHNOLOGIES MINERVA, OHIO
FIGURE 1 SITE LOCATION
PRC ENVIRONMENTAL MANAGEMENT, INC.

Most of the MascoTech site is located on a broad, flat terrace, and is covered with asphalt, concrete, and gravel. The site is bordered to the north and east by the Ohio Rail Company railroad, to the south by agricultural land and Still Fork Creek, and to the west by Louis Petros Sons sand and gravel quarry, the Minerva Sportsman Club, and several residences (PRC 1994).

2.2 SITE VICINITY

The area surrounding the site is used for residential, agricultural, commercial, industrial, and quarrying purposes. About 9,264 people live within 4 miles of the site (Frost & Associates 1994). The nearest residence is located about 75 feet west of the MascoTech property line (PRC 1994). The nearest school is located about 1 mile from the site in Minerva (United States Geological Society [USGS] 1971; PRC 1994).

The MascoTech site is located in the Still Fork Creek valley on a gravel outwash terrace. The nearest surface water is Still Fork Creek, located about 900 feet southeast of the site. Two outfalls channel water west from MascoTech to two outfalls via a ditch that runs across an agricultural field and empties into Still Fork Creek. Outfall 001 manages wastewater treatment discharge from the facility, and Outfall 002 manages storm water runoff. From the ditch, Still Fork Creek flows about 0.5 mile southwest to the confluence with Sandy Creek. Sandy Creek flows southwest to the Tuscarwaras River, more than 15 miles downstream from the site (USGS 1971; PRC 1994).

The City of Minerva obtains water [Not responsive]

[Not responsive]. The Minerva wellfield is located [Not responsive] (ODNR 1962; PRC 1994). These wells serve 4,600 customers (including the MascoTech facility), most of which are located within the city limits.

Residential wells [Not responsive]

[Not responsive] (ODNR 1962; ODNR 1967; ODNR 1987; ODNR 1994).

Carroll County is characterized by a temperate continental climate. The average annual daily temperature of Carroll County is 50°F. Average annual precipitation for the area is 37.3 inches (ODNR 1991). The 2-year 24-hour rainfall for the area is 2.50 inches (Huff and Angel 1992).

2.3 SITE OPERATIONS AND HISTORY

The New York Central Railroad (NYCR) owned the property from 1919 to 1957. NYCR constructed and operated a roundhouse, and adjacent railroad for repairing locomotives. In 1958, Burns purchased the property from NYCR; later that year MascoTech purchased Burns. However, the facility's name did not officially change to MascoTech until 1994. MascoTech manufactures a variety of drive line parts for automotive transmissions. Shafts, pinions, and spindles transmission parts are formed from various sizes of round steel bar stock. The round steel bar stock is first fed by conveyor through a shot-blast machine. The shot-blast machine removes any oxidation or surficial imperfections from the stock. The stock is then moved to the shear table, where the steel is cut to specification. A zinc phosphate coating and die lubricant are then placed on the cut bar stock. The bar stock is then either cold- or warm-pressed into the desired shape using hydraulic or mechanical presses. The parts are then shipped, or sent through secondary refinement processes, such as induction heating, threading, turning, and grinding. After refinement, the steel is washed with water cleaned of oils. The wastewater generated from the parts cleaning process is treated in the wastewater treatment facility, where an oil and water separator separates the waste oil from the wastewater. The wastewater treatment plant neutralizes and dewateres the sludge and removes heavy metals. Treated wastewater is discharged through the 001 outfall into Still Fork Creek (Ecology & Environment [E&E] 1989; PRC 1994).

2.4 PREVIOUS INVESTIGATIONS

Since 1970, the MascoTech site has been investigated by federal, state, local agencies, and private contractors. On March 2, 1970, OEPA inspected Still Fork Creek at the request of Mr. J.D. Dopler, supervising sanitarian for Stark County. OEPA found Still Fork Creek was polluted with a "whitish, lace-like floating material, and some iridescence; indicating oil contamination." The OEPA investigation could not determine if MascoTech had contributed to the contamination of the creek, and OEPA requested that MascoTech submit an evaluation of the situation (OEPA 1970). MascoTech responded that waste oils were continuously released to the creek through floor drains and an outfall ditch that drained from the facility to the creek (OEPA 1985).

The MascoTech site was originally identified by OEPA as a potential hazardous waste site in 1978 when the nearby Minerva Sportsman Club reported that waste oils and acids from parts cleaning

operations were dumped into a 30- to 40-foot-wide pit located behind the main MascoTech building (OEPA 1978b; OEPA 1985).

In 1985, OEPA conducted a preliminary assessment (PA) of the MascoTech site. The PA stated that waste oils were stored in the pit from 1975 to 1978. In 1978, the facility installed an 8,000-gallon aboveground storage tank to hold the waste oil. The waste oil storage pit was then drained, and the waste oil was reclaimed. The oil-saturated soils from the storage pit were removed and transported to a landfill. Since the waste oil storage pit was closed before the Resource Conservation and Recovery Act was enacted, the contaminated soil was not analyzed. In addition, the closure methods and the landfill identity was not documented. The waste oil storage pit was backfilled after the contaminated soil was removed.

In 1989, the EPA Field Investigation Team (FIT) conducted a screening site inspection (SSI) of the MascoTech site. FIT collected five subsurface soil samples from depths of 1 to 4 feet bgs. All samples were analyzed for the full target analyte list (TAL) and target compound list (TCL).

Two volatile organic compounds (VOCs) were detected in the background sample. The background sample was collected from Minerva Bicentennial Park, located about 0.5 mile north of the site. The VOC methylene chloride was detected at very low concentrations ranging from 3 micrograms per kilogram ($\mu\text{g}/\text{kg}$) to 8 $\mu\text{g}/\text{kg}$ in all background and source locations. However, methylene chloride is a common laboratory contaminant. Toluene was also detected in the background sample at an estimated value of 4 $\mu\text{g}/\text{kg}$ (E&E 1989).

Several semivolatile organic compounds (SVOCs) were detected at concentrations ranging from 110 micrograms per kilogram ($\mu\text{g}/\text{kg}$) to 1,100 $\mu\text{g}/\text{kg}$. Naphthalene, 2-methyl naphthalene, phenanthrene, fluoranthene, chrysene, pyrene, bis(2-ethylhexyl)phthalate (was also detected in background sample), benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene, and benzo[g,h,i]perylene SVOCs were detected at elevated concentrations. The highest SVOC concentrations were detected at a soil sample location 500 feet southwest of the former waste oil pit (E&E 1989).

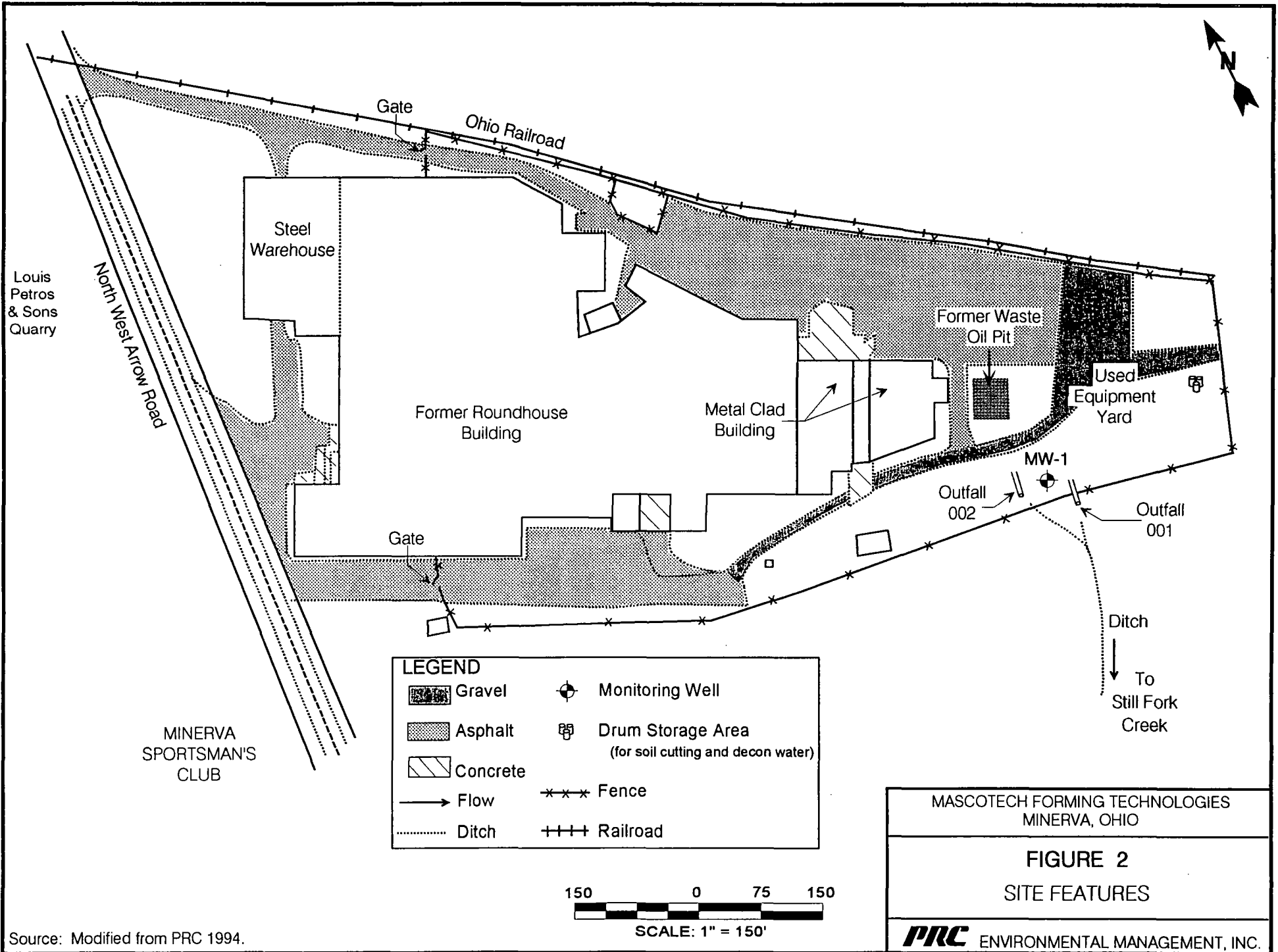
Two pesticide compounds were also detected. Aldrin (50 $\mu\text{g/kg}$) was detected at one sample location about 100 feet northeast of the former waste oil pit. However, these pesticides are not thought to be related to site operations (E&E 1989).

No metals were detected significantly above background levels (E&E 1989).

The allegation that waste acids were co-disposed with the waste oil was never verified by OEPA or from samples collected and analyzed during the SSI (OEPA 1985; PRC 1994; E&E 1989).

In September 1990, MascoTech hired M&G, Inc. of Minerva to remove two underground storage tanks (UST) containing 550 and 3,000 gallons of gasoline respectively, and one 3,000-gallon UST containing diesel fuel. The USTs were located near the southeast corner of the facility. Soil samples were collected and no evidence of leaks or contamination was found in soils around the tanks (M&G 1990). MascoTech then installed four new USTs in the same locations consisting of a 1,000-gallon diesel fuel UST; a 10,000-gallon virgin hydraulic oil UST, an 8,000-gallon waste oil UST, and a 1,000-gallon waste coolant tank (PRC 1994).

In August 1994, MascoTech hired Edder & Associates (Edder) of Detroit, Michigan to conduct an environmental assessment of the site. Edder collected 22 Geoprobe™ soil samples during the investigation at depths of 18 to 22 feet bgs. Samples were analyzed for VOCs, SVOCs, polychlorinated biphenyls (PCBs), pesticides, and metals. MascoTech representatives indicated that Edder collected the Geoprobe™ samples from locations inside and outside facility buildings, including areas beneath the roundhouse building and around the former waste oil storage pit. Edder installed monitoring well MW-1, and two soil borings were installed after the initial geoprobe investigation was completed. Site representatives had not received any reports about the investigation at the time of the PRC site visit.



3.0 SITE RECONNAISSANCE INSPECTION

PRC visited and inspected the MascoTech site on October 4, 1994, and found site conditions generally consistent with those noted during previous investigations (see Section 4.0). Information presented in this section represents current site conditions and is based on PRC's observations during the reconnaissance, unless otherwise specified. Site features are shown in Figure 2. Photographs taken during the site reconnaissance inspection are presented in Appendix A.

PRC met with James E. Morton, Plant Engineer, and Brinley E. Brown, Plant Chemist and Environmental Health and Safety Coordinator at 9:00 a.m. PRC explained the purpose of the visit, and then discussed site history, site operations, and manufacturing and waste generation operations with site representatives. After the meeting, MascoTech representatives and PRC inspected the site.

PRC first toured the other facility buildings and observed manufacturing and waste generation operations. The site tour began in the steel warehouse, where raw materials are unloaded and stored (see Photograph No. 1). PRC observed the wastewater treatment unit constructed in 1987 to address wastewater discharge problems from manufacturing operations (see Photograph No. 2). PRC next observed the east side of the property, which is bordered by an 8-foot-high chainlink fence and the Ohio Rail Company railroad (see Photograph No. 3). PRC then inspected the roundhouse, a large brick building used by MascoTech for manufacturing operations (see Photograph No. 4). Two metal buildings added since 1958 adjoin the roundhouse building (see Photograph Nos. 5 and 6). A former waste oil storage pit is located southeast of the metal buildings. A machine shop is located in the metal building adjacent to the former waste oil pit (see Photograph Nos. 7 and 13). A used equipment storage yard and parking area is located southeast of the facility buildings (see Photograph No. 8). Steel tote bins and hydraulic presses are stored on the asphalt and gravel in this area. A drum storage area is located at the extreme south end of the site near the fence line (see Photograph No. 9). PRC also observed monitoring well MW-1 and the location of two former soil boring locations installed during a Phase 2 assessment (see Photograph Nos. 10 and 11). Wastewater Outfall 001 is located near monitoring well MW-1 (see Photograph No. 12).

Following the site reconnaissance, PRC toured the area surrounding the site. PRC spoke to Not responsive Not responsive a resident living just east of the property, about drinking water use in the area. Not responsive

stated that four homes on the east side of Arrow Road NW and five homes on the west side of Arrow Road NW (south of the railroad) obtain drinking water from private wells. **Not responsive**

Not responsive PRC also documented the location of the Minerva Sportsman Club (see Photograph No. 14), Louis Petros Sons sand and gravel quarry (see Photograph No. 15), and nearby residences.

4.0 MIGRATION AND EXPOSURE PATHWAYS

This section describes the migration and exposure pathways associated with the MascoTech site. Section 4.1 discusses the groundwater migration pathway; Section 4.2 discusses the surface water migration pathway; Section 4.3 discusses the soil exposure pathway; and Section 4.4 discusses the air migration pathway.

4.1 GROUNDWATER MIGRATION PATHWAY

This section discusses geology and soils, groundwater releases, and targets associated with the groundwater pathway at the site.

4.1.1 Geology and Soils

Carroll County is located in the western-most part of the Allegheny Plateau physiographic province. The Allegheny Plateau is one component of the larger Appalachian Plateaus Providence. The MascoTech site is located in the valley of Still Fork Creek about 2,000 feet upstream of the confluence with Sandy Creek. The Still Fork and Sandy Creek valleys are filled with glacial outwash valley train deposits from the Wisconsin and Illinoian glaciation. The Illinoian glacial boundary is about 1 mile north of the site. This boundary denotes the furthest extent of glacial ice. Local bedrock consists of sandstone, shale, clay, limestone, and coal formations from the middle-Pennsylvanian Conemaugh and Allegheny Group. (ODNR 1967).

The glacial valley train deposits of the Still Fork Creek valley consist of constructional Wisconsin-age gravel outwash terraces, Wisconsin-age slack-water silt terraces, and Quaternary alluvium deposits. The MascoTech site is located on a constructional Wisconsin-age gravel outwash terrace. The Sandy

Creek valley is filled with constructional and erosional Illinoian- and Wisconsin-age gravel outwash terraces, and Quaternary alluvium deposits. These unconsolidated deposits fill Sandy and Still Fork Creek valleys to a depth of more than 200 feet. The depth to bedrock is shallower as you approach the valley walls. ODNR well logs indicate that the unconsolidated deposits consist of variably thick sand and gravel unit extending to depths of about 25 to 50 feet bgs. The sand and gravel overlies a clay unit that is between 50- to 100-feet thick. The sand and gravel is used as a source of drinking water for some residential and community wells in the area; however, all residential wells within 0.25 miles of the MascoTech site are screened about 200 feet bgs in the bedrock aquifer. It is unknown if the shallow sand and gravel aquifer is interconnected to the bedrock aquifer (ODNR 1962; ODNR 1967; ODNR 1987; and ODNR 1994).

The Lower and Upper Mahoning and Brush Creek Formations are part of the Conemaugh Group. These formations are present beneath the glacial outwash deposits in the Still Fork Creek valley. The Upper Mahoning Formation is made up of thin- to medium-bedded gray and pale-red shale and light-gray sandstone with sandy-shale interbeds. The Lower Mahoning Formation is made up of a coarse-grained, massive bedded sandstone, that is about 30- to 50 feet thick. The Brush Creek formation consists of black, fossiliferous shale, thin coal beds, and a gray, plastic clay. These two formations are 40- to 80-feet in thickness in the area of MascoTech (ODNR 1967).

The valley walls and uplands consist of the Upper and Lower Freeport, and Middle Kittanning Formations from the Allegheny Group. These formations primarily consist of sandstone and shale, with very thin coal beds underlain by thin beds of clay and limestone (ODNR 1967).

Soils at MascoTech are classified as belonging to the Sebring-Fitchville-Glenford Association. These nearly level soils of floodplains and terraces, are poorly to moderately well drained. These soils formed in lacustrine sediments on terraces (ODNR 1981).

4.1.2 Groundwater Releases

In 1994, Edder conducted an environmental assessment of the site. Twenty-two Geoprobe soil samples were collected for analysis during the investigation. Subsequently, monitoring Not responsive, and two

soil borings were also installed. Results of the investigation were not released to PRC. There have been no complaints about drinking water quality from nearby residential well users (PRC 1994).

4.1.3 Targets

The City of Minerva has [Not responsive]. These wells are capable of pumping up to 1,000 gallons of water per minute. The Minerva wellfield is [Not responsive] (ODNR 1962; PRC 1994). These wells serve 4,600 residents (including the MascoTech facility), most of which live within the city limits. [Not responsive].

[Not responsive]. The Still Fork Creek Upper Mahoning sandstone aquifer is capable of yielding about 10- to 20-gallons per minute (ODNR 1994; Frost & Associates 1994; and PRC 1994). In addition, there are no wellhead protection areas within a 4-mile radius of the site (OEPA 1995).

4.2 SURFACE WATER MIGRATION PATHWAY

This section discusses the migration route, surface water releases, and targets associated with the surface water migration pathway at the MascoTech site.

4.2.1 Surface Water Migration Route

The MascoTech site is located in the Still Fork Creek valley. The distance to surface water is 900 feet. Surface runoff at MascoTech drains west from two outfalls via a ditch that runs across a farm field to Still Fork Creek. Outfall 001 manages wastewater treatment discharge from the facility. Outfall 002 manages stormwater runoff. Still Fork Creek flows about 0.5 mile southwest to the confluence with Sandy Creek. Sandy Creek flows southwest and eventually empties into the Tuscarwaras River more than 15 miles downstream of the site.

4.2.2 Surface Water Releases

Several releases have occurred from site outfalls to Still Fork Creek since the facility began operations. On March 2, 1970, OEPA inspected Still Fork Creek at the request of Mr. J.D. Dopler, supervising sanitarian for Stark County. Still Fork Creek was polluted with a 'whitish, lace-like floating material, and some iridescence; indicating oil contamination.' The OEPA investigation could not determine if MascoTech had contributed to the contamination of the creek, and OEPA requested MascoTech submit an evaluation of the situation (OEPA 1970). MascoTech responded that waste oils were released to the creek via floor drains and an outfall ditch that drained from the facility to the creek (OEPA 1985). PRC could find no additional information about this release.

Outfall 001 had a National Pollution Discharge Elimination System (NPDES) permit to discharge to Still Fork Creek from 1971 to 1978 (OEPA 1971), and from 1978 to 1983 (OEPA 1978a). The permits allowed the facility to discharge 150,000 gallons per day of cooling water to Still Fork Creek, from heat exchangers used to cool presses. The cooling water was recycled from hot and cold rinse tanks to a die lubricant coating line. The overflow from tanks ran to traps where the oil was separated from the wastewater, and discharged to the creek via Outfall 001. The permits allowed the company to discharge oil and grease, provided they met permit discharge limitations. (OEPA 1971).

On October 22, 1986, OEPA was informed that a release of oil and wastewater had occurred to Still Fork Creek. OEPA investigated the release, and determined that no additional follow-up was required at the spill site (OEPA 1986). No other details were provided in the spill report.

On March 29, 1989, MascoTech accidentally released 55- to 100 gallons of oil and graphite from Outfall 001 to a "rain-swollen" Still Fork Creek. The release was controlled by floating, absorbent surface booms that emergency crews installed in the creek to contain the floating oil. OEPA called Chemserv Environmental to clean up the spill. Heavy rains were thought to have flushed the oil from the oil and water separator containment area. The containment area and stormwater collection system were inter-connected at the time of the spill (The Repository 1989).

On February 10, 1994, OEPA sent MascoTech a letter as a follow-up to an inspection regarding the performance of their wastewater treatment system and NPDES discharges. The OEPA letter stated that

MascoTech occasionally discharged zinc, copper, and nickel at concentrations slightly above permit levels. As a result of the OEPA compliance inspection, MascoTech began working to reduce metal concentrations, and initiated discussions with the City of Minerva to tap into the city sanitary sewer mains (MascoTech 1994).

4.2.3 Targets

There are no surface water intakes on Still Fork Creek or Sandy Creek (PRC 1994). Still Fork Creek and Sandy Creek are assumed to be streams that are fished by local residents. Based on the size of the streams, an estimated 100 to 1,000 pounds of fish were assumed to be taken from the streams annually.

4.3 SOIL EXPOSURE PATHWAY

During the 1989 FIT investigation, five subsurface soil samples were collected from 1- to 4-feet bgs. Soil sample analytical results detected several SVOCs at concentrations ranging from 110 $\mu\text{g/kg}$ to 1,100 $\mu\text{g/kg}$. The highest SVOC concentrations were detected at a soil sample collected 500 feet southwest of the former waste oil pit. Naphthalene, 2-methyl naphthalene, phenanthrene, fluoranthene, chrysene, pyrene, bis(2-ethylhexyl)phthalate (was also detected in background sample), benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, indeno[1,2,3-cd]pyrene, dibenzo[a,h]anthracene, and benzo[g,h,i]perylene volatile organic compounds were detected. Two pesticide compounds were detected. Aldrin (50 $\mu\text{g/kg}$) was detected at one sample location about 100 feet northeast of the former waste oil pit. No metals were detected significantly above background levels (E&E 1989). The FIT data was insufficient to determine the total area of contaminated soil.

The site is physically inaccessible to the public, and there is no evidence of public recreation use. An 8-foot high chainlink fence surrounds the entire property. The nearest residence is located about 75 feet west of the MascoTech property line (PRC 1994). The nearest school is located more than 1 mile from the site in Minerva (USGS 1960; PRC 1994). An estimated 10 workers work within 200 feet of the former waste oil pit, and there are no critical, endangered or threatened, federal or state species or habitats present at the site (PRC 1994). In addition, it is unlikely that contaminated soil may have migrated off site.

4.4 AIR MIGRATION PATHWAY

No releases of hazardous substances from the site were documented during the SSI, and there have been no historical reports of air releases from the site (E&E 1989).

6.0 SUMMARY

The MascoTech site was originally identified as a potential hazardous waste site in 1978 when a nearby organization reported that "oils and acids" were dumped into a 30- to 40-foot wide pit located south of the MascoTech building. Waste oils from production operations were stored in the former pit from 1975 to 1978. The former waste oil pit was replaced by an 8,000-gallon aboveground storage tank in 1978. The waste oil was reclaimed when the pit was drained, and the oil-saturated soils from the pit was removed and transported to a landfill. Closure of the pit was pre-RCRA, and no analysis was performed on the contaminated soil. The pits were subsequently backfilled.

The MascoTech site is located on a constructional Wisconsin-age gravel outwash terrace. The Sandy Creek valley is filled with constructional and erosional Illinoian- and Wisconsin-age gravel outwash terraces, and Quaternary alluvium deposits. These unconsolidated deposits fill Sandy and Still Fork Creek valleys to a depth of more than 200 feet. The depth to bedrock is shallower as you approach the valley walls. ODNR well logs indicate that the unconsolidated deposits consist of variably thick sand and gravel unit extending to depths of about 25 to 50 feet bgs. The sand and gravel overlies a clay unit that is between 50- to 100-feet thick. The sand and gravel is used as a source of drinking water for some residential and community wells in the area; however, all residential wells within 0.25 miles of the MascoTech site are screened about 200 feet bgs in the bedrock aquifer. It is unknown if the shallow sand and gravel aquifer is interconnected to the bedrock aquifer (ODNR 1962; ODNR 1967; ODNR 1987; and ODNR 1994).

The City of Minerva has [Not responsive]

[Redacted]. The Minerva wellfield [Not responsive]

[Redacted] These wells serve 4,600 residents (including the MascoTech facility), most of which live within the city limits. No releases to groundwater have been documented.

The MascoTech site is located in the Still Fork Creek valley. Several unpermitted releases of oil have occurred from site outfalls to Still Fork Creek since the facility began operations. However, there are no surface water intakes within 15-miles downstream of the site. Stormwater runoff from the site flows from Outfall 002 into a ditch that drains about 1,400 feet west to Still Fork Creek. Still Fork Creek flows about 0.5 mile southwest to the confluence with Sandy Creek.

The 1989 FIT investigation collected five subsurface soil samples, 1 to 4 feet bgs. Analytical results found several SVOCs at concentrations ranging from 110 $\mu\text{g/kg}$ to 1,100 $\mu\text{g/kg}$. The highest SVOCs were detected at a soil sample location 500 feet southwest of the former waste oil pit. However, the SSI sampling results did not find off-site contamination related to MascoTech operations.

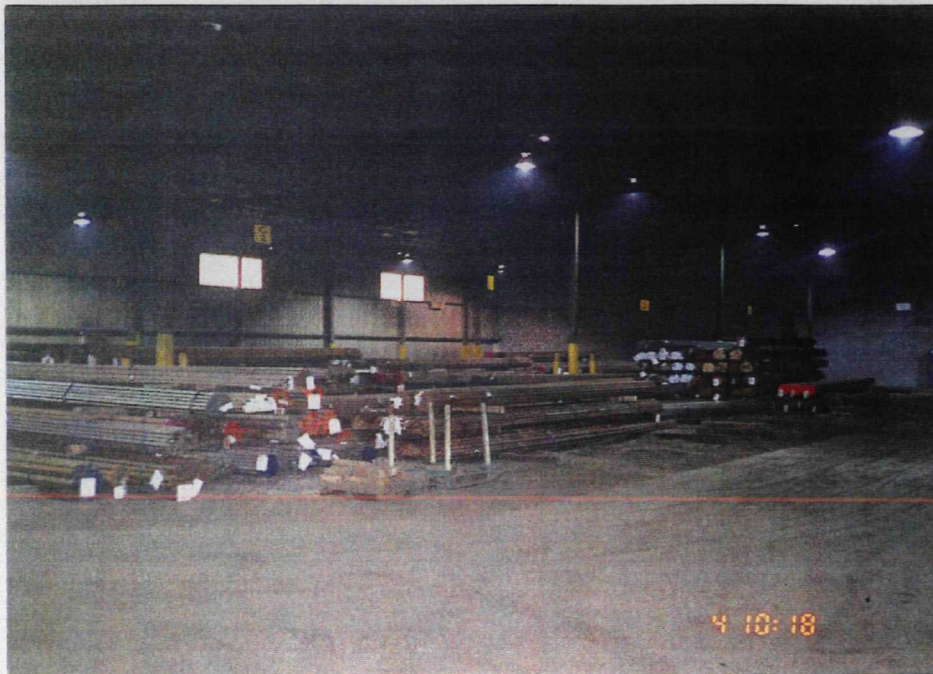
The site is physically inaccessible to the public, and there is no evidence of public recreation use. An 8-foot high chainlink fence surrounds the entire property. The nearest residence is located about 75 feet west of the MascoTech property line. The nearest school is located more than 1 mile from the site in Minerva. An estimated 10 workers work within 200 feet of the former waste oil pit; however, there are no critical, endangered or threatened, federal or state species or habitats present at the site.

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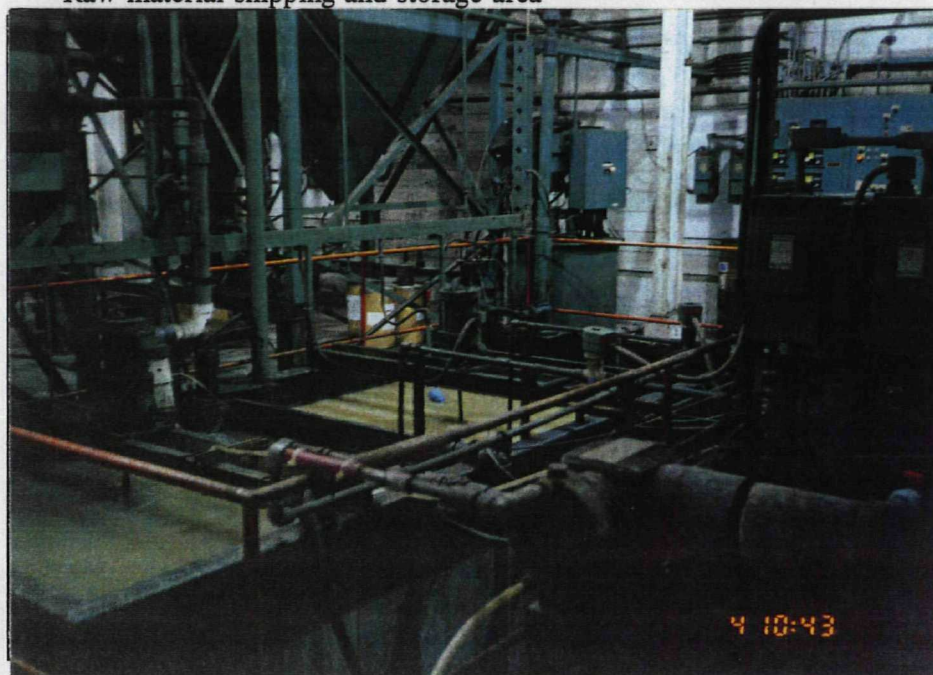
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APPENDIX A
PHOTOGRAPHIC LOG
(Nine Pages)



Photograph No. 1
 Orientation: Northeast
 Description: Raw material shipping and storage area

Location: Steel warehouse
 Date: October 4, 1994



Photograph No. 2
 Orientation: Northeast
 Description: Wastewater treatment unit

Location: Wastewater treatment unit
 Date: October 4, 1994



Photograph No. 3

Location: Northeast portion of MascoTech property

Orientation: North

Date: October 4, 1994

Description: Ohio Rail Company railroad and 8-foot-high chain-link fence



Photograph No. 4

Location: Southeast portion of MascoTech property

Orientation: North

Date: October 4, 1994

Description: East side of the former roundhouse building; asphalt parking area



Photograph No. 5

Location: South side of former roundhouse

Orientation: West

Date: October 4, 1994

Description: Metal buildings that abut the former roundhouse building; three USTs were removed from this area



Photograph No. 6

Location: Southern metal building

Orientation: West

Date: October 4, 1994

Description: Southern metal building; asphalt parking area on the east side of the site



Photograph No. 7

Orientation: North

Description: Used equipment storage yard south of the former waste oil storage pit (vegetated area center of the photo)

Location: Used equipment storage yard

Date: October 4, 1994



Photograph No. 8

Orientation: North

Description: Used equipment storage yard south of the former waste oil storage pit

Location: South side of metal buildings

Date: October 4, 1994



Photograph No. 9

Location: Drum storage area

Orientation: South

Date: October 4, 1994

Description: Drums containing soil cuttings and decontamination water



Photograph No. 10

Location: Soil boring location

Orientation: Northwest

Date: October 4, 1994

Description: Soil boring location on the southwest portion of the site. Note the soil erosion from runoff



Photograph No. 13

Location: Southwest portion of MascoTech site

Orientation: South

Date: October 4, 1994

Description: View of Machine Shop (metal buildings), and the edge of the terrace



Photograph No. 14

Location: Northwest of MascoTech site

Orientation: West

Date: October 4, 1994

Description: Entrance to the Minerva Sportsman Club



Photograph No. 15

Orientation: North

Description: Entrance to Louis Petros Sons sand and gravel quarry

Location: North of MascoTech site

Date: October 4, 1994